The alarming rate of climate change, habitat destruction and, species extinction over the last 2 decades has catalyzed our resolve to find solutions to growing environmental problems:

- the contamination of air, water and soil;
- the spread of toxic chemicals;
- invading species driving out native populations, and
- the progressive loss of habitats that species need to grow, survive, and reproduce.

These problems are not simple; finding solutions requires the integration and interpretation of biological, chemical, geological, and social sciences. Coursework in our undergraduate interdisciplinary program provides training in areas such as ecosystem management, natural resources conservation, environmental assessment, and environmental education.

**Programs**

- Conservation and Environmental Sciences, BA (http://catalog.uwm.edu/letters-science/conservation-environmental-science/conservation-environmental-science-ba)
- Conservation and Environmental Sciences, BS (http://catalog.uwm.edu/letters-science/conservation-environmental-science/conservation-environmental-science-bs)

**Conservation and Environmental Science Courses**

**CES 199 Independent Study**
1-3 cr. Undergraduate.
For further information, consult dept chair.
**Prerequisites:** 2.5 gpa; writ cons instr, dept chair & asst dean for SAS.
**Course Rules:** Retakable to 6 cr max.
**Current Offerings:** http://uwm.edu/schedule

**CES 210 Introduction to Conservation and Environmental Science**
3 cr. Undergraduate.
Relations between human populations and resource depletion, pollution and ecosystem disturbance; search for solutions. Discussion section includes some community activities with environmental organization. 2 hrs lec, 1 hr dis
**Prerequisites:** none.
**General Education Requirements:** NS
**Last Taught:** Spring 2018, Fall 2017, Spring 2017, Fall 2016.
**Current Offerings:** http://uwm.edu/schedule

**CES 289 Internship in Environmental Studies, Lower Division**
1-6 cr. Undergraduate.
Application of basic principles of environmental studies in a business, organizational, educational, political, or other appropriate setting.
**Prerequisites:** intro course in CES; 2.50 gpa; cons supervising faculty member.
**Course Rules:** One cr earned for academic work based on 40 hours in internship. Retakable to 6 cr max.
**Last Taught:** Spring 2011, Summer 2010, Spring 2010, Spring 2009.
**Current Offerings:** http://uwm.edu/schedule

**CES 290 Seminar: Cool Power to Slow Global Warming**
3 cr. Undergraduate.
Climate change - myth? science? Global warming causes; energy for sustainability; non-renewable (coal, oil, nuclear power), renewable (sun, wind, hydro, biomass, biogas) sources; predictions for 2050.
**Prerequisites:** none.
**General Education Requirements:** NS
**Last Taught:** Spring 2007.
**Current Offerings:** http://uwm.edu/schedule

**CES 297 Study Abroad:**
1-12 cr. Undergraduate.
Designed to enroll students in UWM-sponsored program before course work level, content, and credits are determined and/or in specially prepared course work.
**Prerequisites:** acceptance for Study Abroad Prog.
**Course Rules:** Retakable w/chg in topic.
**Last Taught:** Spring 2016, Spring 2014, Fall 2010.
**Current Offerings:** http://uwm.edu/schedule

**CES 299 Ad Hoc:**
1-6 cr. Undergraduate.
Course created expressly for offering in a specified enrollment period. Requires only dept & assoc dean approval. In exceptional circumstances, can be offered in one add’l sem.
**Prerequisites:** none; add’l prereqs may be assigned to specific topic.
**Course Rules:** Retakable w/chg in topic.
**Last Taught:** Spring 1984.
**Current Offerings:** http://uwm.edu/schedule

**CES 451 Field Methods in Conservation**
3 cr. Undergraduate/Graduate.
Introduction to methods, techniques and tools for natural area management, including plant/animal surveys, vegetation/habitat description, and incorporating hands-on experience. 2 hr lec, 3 hrs lab.
**Prerequisites:** jr st; Bio Sci 310(P) or equiv or cons instr.
**Course Rules:** Jointly offered with and counts as repeat of Bio Sci 451.
**Last Taught:** Fall 2017.
**Current Offerings:** http://uwm.edu/schedule

**CES 461 The Politics and Policy of Sustainability**
3 cr. Undergraduate/Graduate.
Principles of environmental policy, governance, and management for global sustainability.
**Prerequisites:** jr st; CES 210(P) or cons instr.
**Course Rules:** CES 461, FrshWtr 461, & Global 461 are jointly offered; they count as repeats of one another.
**Last Taught:** Spring 2015, Fall 2014, Fall 2013.
**Current Offerings:** http://uwm.edu/schedule
CES 471 Practicum in Natural Resources Management
4 cr. Undergraduate/Graduate.
Preparation and presentation of a natural resource or environmental management plan for a real-world client. 3 hrs lec, 1 hr dis.
**Prerequisites:** sr st; Bio Sci 310(P); declared CES major; or cons instr.
**Last Taught:** Spring 2018, Fall 2017, Spring 2017, Fall 2016.
**Current Offerings:** [http://uwm.edu/schedule](http://uwm.edu/schedule)

CES 489 Internship in Environmental Studies, Upper Division
1-6 cr. Undergraduate.
Application of advanced principles of environmental studies in a business, organizational, educational, political, or other appropriate setting.
**Prerequisites:** jr st; 300-level or above course in Conservation & Environmental Sciences; 2.5 gpa; cons supervising faculty member.
**Course Rules:** One cr earned for academic work based on 40 hours in internship. Retakable to 6 cr max.
**Last Taught:** Spring 2018, Fall 2017, Summer 2017, Spring 2017.
**Current Offerings:** [http://uwm.edu/schedule](http://uwm.edu/schedule)

CES 490 Senior Seminar: Conservation and Environmental Science
1 cr. Undergraduate.
Examination of conservation literature and preparation, presentation, and discussion of oral reports by individual students.
**Prerequisites:** sr st; Conservation & Environmental Sciences major or Bio Sci major.
**Last Taught:** Spring 2016, Fall 2015, Spring 2015, Fall 2014.
**Current Offerings:** [http://uwm.edu/schedule](http://uwm.edu/schedule)

CES 497 Study Abroad:
1-12 cr. Undergraduate.
Designed to enroll students in UWM sponsored program before course work level, content, and credits are determined and/or in specially prepared course work.
**Prerequisites:** jr st; acceptance for Study Abroad Prog.
**Course Rules:** Retakable w/chg in topic.
**Last Taught:** Spring 2016, Fall 2013, Fall 2012, UWinteriM 2012.
**Current Offerings:** [http://uwm.edu/schedule](http://uwm.edu/schedule)

CES 499 Ad Hoc:
1-6 cr. Undergraduate.
Course created expressly for offering in a specified enrollment period. Requires only dept & assoc dean approval. In exceptional circumstances, can be offered in one add'l sem.
**Prerequisites:** jr st; add'l prereqs may be assigned to specific topic.
**Course Rules:** Retakable w/chg in topic.
**Last Taught:** Spring 2016, Fall 2015, Fall 2014, Fall 2011.
**Current Offerings:** [http://uwm.edu/schedule](http://uwm.edu/schedule)

CES 515 Environmental Law for Natural Resource Managers
3 cr. Undergraduate/Graduate.
Overview of United States environmental and natural resource law.
**Prerequisites:** jr st or cons instr.
**Course Rules:** Counts as repeat of CES 499 with same topic.
**Last Taught:** Spring 2018, Spring 2017.
**Current Offerings:** [http://uwm.edu/schedule](http://uwm.edu/schedule)

CES 550 Introduction to Science Interpretation
3 cr. Undergraduate/Graduate.
Concepts and practices of presenting science information for audience understanding of impact of science on daily life. Interpretation techniques for science content in nonformal settings.
**Prerequisites:** jr st; CES 210(P) or cons instr.
**Last Taught:** UWinteriM 2017, UWinteriM 2015, UWinteriM 2014, UWinteriM 2013.
**Current Offerings:** [http://uwm.edu/schedule](http://uwm.edu/schedule)

CES 551 Application of Science Interpretation
3 cr. Undergraduate/Graduate.
Building upon CES 550, application of skills and knowledge to interdisciplinary environmental issues.
**Prerequisites:** jr st; CES 550(P).
**Last Taught:** Spring 2006.
**Current Offerings:** [http://uwm.edu/schedule](http://uwm.edu/schedule)

CES 557 Practical Approaches to a Sustainable Future
3 cr. Undergraduate/Graduate.
Natural ecological principles used to develop sustainable human-influenced environments. Emphasis on practical solutions to assess and develop alternative sustainable human agroecological models.
**Prerequisites:** jr st; grade C or better in CES 210(P).
**Course Rules:** Counts as a repeat of CES 499 w/similar topic.
**Last Taught:** Spring 2015, Spring 2014, Fall 2013, Fall 2012.
**Current Offerings:** [http://uwm.edu/schedule](http://uwm.edu/schedule)

CES 558 Principles of Stream Management and Restoration
3 cr. Undergraduate/Graduate.
Stream management and restoration, open-channel hydraulics, stream geomorphology, stable channel design, sediment transport, and in-stream aquatic ecology and riparian corridor habitats.
**Prerequisites:** jr st; Bio Sci 310(P) or equiv; Math 211(P) or equiv; or cons instr.
**Last Taught:** Fall 2017, Fall 2016.
**Current Offerings:** [http://uwm.edu/schedule](http://uwm.edu/schedule)

CES 559 Advanced Independent Study
1-3 cr. Undergraduate.
Advanced level independent work under the supervision of CES faculty or academic staff member.
**Prerequisites:** jr st; 2.5 GPA; writ cons instr, dept chair, & asst dean for SAS.
**Course Rules:** Retakable w/chg in topic to 9 cr max.
**Last Taught:** Spring 2018, Spring 2017, Fall 2016, Spring 2016.
**Current Offerings:** [http://uwm.edu/schedule](http://uwm.edu/schedule)

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**Faculty**

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<tr>
<th>Name</th>
<th>Rank</th>
<th>Degree</th>
<th>School</th>
<th>Graduate Faculty</th>
<th>Emeritus Faculty</th>
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<tbody>
<tr>
<td>Glen Fredlund</td>
<td>Associate Professor</td>
<td>PhD</td>
<td>University of Kansas</td>
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<tr>
<td>Neal T. O'Reilly</td>
<td>Lecturer</td>
<td>PhD</td>
<td>Marquette University</td>
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